

OIL PALM DISEASES AND THEIR CONTROL PRACTICES IN MALAYSIA

NORHASLINA BINTI ALI

**Final Year Project Report Submitted in
Partial Fulfillment of the Requirements for the
Degree of Bachelor of Science (Hons.) Technology and Plantation Management in the
Faculty of Plantation and Agrotechnology
Universiti Teknologi MARA**

JULY 2016

DECLARATION

This Final Year Project is a partial fulfillment of the requirements for a degree of Bachelor of Science (Hons.) Technology and Plantation Management, Faculty of Plantation and Agrotechnology, Universiti Teknologi MARA.

It is entirely my own work and has not been submitted to any other University or higher education institution, or for any other academic award in this University. Where use has been made of the work of other people it has been fully acknowledged and fully referenced.

I hereby assign all and every right in the copyright to this Work to the Universiti Teknologi MARA (UiTM), which henceforth shall be the owner of copyright in this Work and that, any reproduction or use in any form or by any means what so ever is prohibited without a written consent of UiTM.

Candidate's signature:
Date: 22/07/2016

Name: NORHASLINA BINTI ALI

I hereby declare that I have checked this project and in my opinion, this project is adequate in terms of scope and quality for the award of the degree of Bachelor of Science (Hons.) Technology and Plantation Management, Faculty of Plantation and Agrotechnology, Universiti Teknologi MARA.

Signature:

Name of Supervisor: DR HAMZAH BIN ABD AZIZ

Position: Senior Lecturer

Date: 22/7/2016

ACKNOWLEDGEMENT

In the name of Allah s.w.t, the Most Gracious and the Most Merciful.

First of all, Alhamdulillah, all praise to Allah s.w.t. for the strength and His blessing in completing this research project. I also want to grateful to Allah the ALMIGHTY that give me the opportunities to completing this research project with flying colour.

I very thankful to DR HAMZAH BIN ABD AZIZ as my supervisor that support, give guidance, encouragement and commitment that have contributed to the success of my final year project and give me opportunity to gain new knowledge during my course of study. In addition, gratitude to En Jumain bin Sinring ARO (Assistant Researcher Officer) MPOB Lahad Datu that have given guidance and give some info about my title.

My last gratitude and deepest appreciate to my lovely father, Ali bin Saduda and my family, for their encouragement, prayers and support. Sincere thanks to all my friends for theirs moral support. Finally, to those who directly and indirectly involved and contributed to completing my final year project and course of study. Thank you very much to all of you.

NORHASLINA BINTI ALI

TABLE OF CONTENTS

| | Page |
|------------------------------|-------------|
| ACKNOWLEDGEMENTS | iii |
| TABLE OF CONTENTS | iv |
| LIST OF FIGURES | vi |
| LIST OF TABLES | vii |
| LIST OF ABBREVIATIONS | viii |
| ABSTRACT | ix |
| ABSTRAK | x |

CHAPTER

| | | |
|----------|-------------------------------------------------------------------------------|----|
| 1 | INTRODUCTION | |
| | 1.1 Background | 1 |
| | 1.2 Problem statement | 3 |
| | 1.3 Significant of study | 4 |
| | 1.4 Objective of study | 5 |
| | 1.5 Research question | 5 |
| | 1.6 Scope of study | 6 |
| 2 | OIL PALM PLANTATIONS IN MALAYSIA: DISEASES AND THEIR CONTROL PRACTICES | 8 |
| 3 | NURSERY STAGE | |
| | 3.1 Brown germ disease | |
| | 3.1.1 Introduction | 13 |
| | 3.1.2 Disease epidemiology | 14 |
| | 3.1.3 Symptom or sign | 15 |
| | 3.1.4 Control management | 16 |
| | 3.2 <i>Curvularia</i> leaf spot | |
| | 3.2.1 Introduction | 17 |
| | 3.2.2 Symptoms or sign | 17 |
| | 3.2.3 Control management | 19 |
| 4 | IMMATURE PLANTING | |
| | 4.1 Spear rot and bud rot | |
| | 4.1.1 Introduction | 20 |
| | 4.1.2 Economic importance | 21 |
| | 4.1.3 Disease epidemiology | 22 |
| | 4.1.4 Symptom or sign | 23 |
| | 4.1.5 Control management | 25 |
| | 4.2 Charcoal base rot | |
| | 4.2.1 Introduction | 28 |
| | 4.2.2 Symptom or signs | 28 |
| | 4.2.3 Control management | 29 |

ABSTRACT

OIL PALM DISEASES AND THEIR CONTROL PRACTICES IN MALAYSIA

Oil palm is a very important commodity for many countries especially in Southeast Asia. But there so much concerns about its various pest and diseases around the world. Malaysian oil palm industry has been struggle with the destruction caused by soil borne diseases such as basal stem rot (BSR). There have many diseases can be found in different oil palm growth stages such as in nursery, immature planting and main field plantation. Nevertheless, different oil palm growing countries have their own different of disease incidences occurred in their oil palm plantation area for example BSR mainly found in Southeast Asia. The most serious disease that caused significant losses in oil palm production is the BSR which manifested by fungal *Ganoderma boninense*. Previously, many studies have been done and reported on different control strategies for BSR on oil palm such as cultural, chemical, biological and etc. The cultural method only has a little effect on the control of BSR but could prolong the life span of infected-oil palm trees. Our review study has highlighted on diverse implementation of control strategies against all main diseases in oil palm plantations in Malaysia. Therefore, we could identify the most significant threat and its possible curative measures to manage the diseases.

Keywords : Oil palm, cultural control, chemical control, biological control